Attachment D

Water Rights Considerations and Constraints, Land Acquisition Cost Analysis, and Conversion of Fee Simple Farmland

Attachment D to the ALP Project Final Supplemental Environmental Impact Statement (FSEIS) identifies and describes considerations and constraints for implementing the various scenarios involving acquisition of water rights; presents an analysis used to determine the cost associated with the agricultural land acquisition elements of the non-structural components of Refined Alternative 4 and Refined Alternative 6; discusses the potential value of ALP Project-developed municipal and industrial water; and addresses the potential county tax revenue effects of conversion of fee simple farmland to Indian Trust land.

Attachment D - Part 1

Water Rights Considerations and Constraints

ANIMAS-LA PLATA PROJECT
WATER RIGHTS CONSIDERATIONS AND CONSTRAINTS

The acquisition of irrigation water rights and their subsequent change to municipal and industrial (M&I) use is an element of ALP Project alternatives with non-structural components. The purpose of this document is to identify and describe considerations and constraints for implementation of the various scenarios involving acquisition of water rights. The water rights to be acquired as part of these alternatives would primarily be irrigation rights in Colorado for changed use in Colorado, but some Colorado rights would be acquired for use in New Mexico. The water rights acquired in New Mexico would be used in New Mexico.

The entity to acquire the water rights has not yet been specifically identified. For purposes of this discussion, it is assumed that all water rights acquired, including those acquired by the Colorado Ute Tribes, would not be reserved water rights, but rather would be state appropriative water rights subject to the water laws and administrative procedures established by either the State of Colorado or the State of New Mexico. State water rights, unlike reserved water rights, are subject to claims of abandonment or forfeiture under state water law. In addition, in a change of water rights action, as discussed below, the full value of a reserved right, but not that of a state appropriative right, may be changed. The water rights of the Colorado Ute Tribes to be stored in the proposed Ridges Basin Reservoir under the ALP Project alternative that include the reservoir would be reserved rights.

Several legal considerations and constraints that may affect the change of irrigation water rights to M&I use, described in detail below, include, but are not limited to:

(1) The need for court or administrative approval of the change, with the attendant need for the applicant to prove non-injury to other water rights from the change and other factors.

(2) The need to deal with numerous objectors in the change process.

(3) Recognition that the time required for a change can be substantial.

(4) Uncertainty of the outcome of a change case, because of the no injury constraint and the potential for an action that may allow the change of only the historical consumptive use (or even possibly less than the historical consumptive use) and the need for the change ruling to include terms protective of other water rights.

(5) The requirement of complying with Colorado export statute, for out-of-state transfers.

(6) The requirement of compliance with interstate compact issues.

Water used for irrigation purposes, while considered appurtenant to the land upon which it is used, may be severed from the land and changed to other uses without losing the priority of right for the previous use. Such a change will only be allowed, however, if the change will not injure existing vested water rights or decreed conditional water rights. The New Mexico statutes contain two additional conditions that must also be satisfied: the proposed new use must not be (1) contrary to the conservation of water within the state or (2) detrimental to the public welfare of the state. The New Mexico State Engineer has

broad discretion in determining the meaning of public welfare and in evaluating potential impacts on the public welfare. One consideration may be the economic impacts of the proposed change.

Changing the point of diversion, place of use, or type of use of an existing water right requires the filing of a change of use application to then be approved through a water court proceeding in Colorado or an administrative process before the State Engineer in New Mexico. Such change-of-use actions are subject to challenge by other water users, and in Colorado by "any person," which can result in lengthy and costly negotiations or proceedings. The resulting change of use ruling must protect other water rights through the imposition of negotiated or court-ordered conditions.

The amount of water that can be changed is dependent upon the specifics of the case, including location and type of historical and new use; location, amount, and timing of historical and new return flows; and the extent to which other water right holders have relied on the historical return flows. Junior appropriators have a right to the continuation of the stream conditions that existed at the time of their appropriations. Therefore, any change of use must continue the historical return flow pattern of the original right in terms of timing, location and quantity. The party seeking to change the status quo has the burden of proving non-injury to other water rights.

Irrigation water rights are diverted for crops only within the irrigation season, generally from March/April/May through October in southwestern Colorado, depending on the elevation of the land and seasonal climatological conditions. Conversion to M&I use will be allowed only if the historical consumptive use is not exceeded. This may require diversions for M&I use to continue under the same timing as that for the historical diversion pattern for irrigation, thus limiting diversions to the irrigation season. This requires storage of the diverted water for subsequent release during the non-irrigation season. Subsequent releases can be made either to maintain historic return flows or to meet the demands associated with the future use. This storage and subsequent release, however, cannot result in injury to other water rights. Storage is required to develop a firm supply to meet an M&I demand pattern of year-round diversion and use. This requirement cannot be overlooked. To settle the Colorado Ute Tribes' reserved water rights claims, the storage might be obtained in existing federal reservoirs (Vallecito, Lemon, Navajo, and Jackson Gulch), but that storage would have to be purchased and it may not be available.

The amount of water that can be changed to a new use will be determined by the amount of the historical diversions and consumptive use. The amount of water that can be consumed by the new use must generally be no greater than the historical consumptive use, because the water that was not historically consumed constitutes the return flows on which other water rights depend for their supply. If consumption under the new use exceeds historical consumption, thus decreasing return flows, there will be less water in the river and a likely adverse impact on other water rights.

The actual amount of water that may be diverted for a new use may be as much as the historical diversion or may be limited to no more than the historical consumptive use, depending on the specific circumstances of the change case. If the new use is located in a basin other than the historical place of use, then future return flows will occur in that adjoining basin, not in the original basin. In that case, the amount of water that can be changed for diversion out of the original basin would be limited to the amount of the historical consumptive use because of the need to maintain historical return flows at their historical locations. On the other hand, if the new use is close to the place of the old use and would result in a return flow pattern similar to that of the historical use, the amount of water that must be diverted for the new use could be as much as the historical amount, without causing injury to other water rights.

Some of the land that could be acquired by the Colorado Ute Tribes, so that the use of the irrigation water rights appurtenant to the land may be changed to M&I use, are presently served by a combination of water rights that may include adjudicated "private water", adjudicated "company water", and "project water." For purposes of this discussion, private water refers to water available to the land by virtue of irrigation water rights held by an individual. Company water refers to water available to the land by virtue of water rights held by a mutual ditch company. Project water refers to water available to the land by virtue of facilities constructed by the Bureau of Reclamation, with water rights held by the United States or the local contracting public water district. The fundamental considerations and constraints for changing the use of water under state water law are generally the same for private, company, and project water.

Changes of company or project water would have considerations and constraints, in addition to those described above, related to the specific requirements of the mutual ditch company, the water district, or the United States. For company water, a proposed change in use must not only not result in injury to other water rights but must also not result in injury to the remaining owners of rights in the mutual ditch or reservoir company from which the water rights are being changed. The proposed change must provide for any structures or measures necessary within the ditch or reservoir system to ensure the continuation of historically available surface water supply of the remaining owners without injury or any increase in cost to the remaining owners.

For a change of project water, additional constraints include (1) whether a change in the place of use of the water to outside the water district can be accomplished without a change in statute, and (2) whether conditions specified in any contract between the water district and the United States allow the change, factoring in potential impacts on the district's repayment obligations.

If project water is purchased along with other direct flow rights under a ditch in the Pine River Basin, then a certain amount of storage in Vallecito Reservoir may be obtained as part of that acquisition. Vallecito Project water, however, is presently decreed for irrigation use on specific land. Any change of use for Vallecito Project water would require approval by the United States and the local irrigation district operating the project. The change of use of Vallecito Project water could require federal legislation and could also have payment implications that would need to be addressed, such as increased rates for M&I use as compared to irrigation use.

As stated above, the basic consideration is that any change not injure other water rights on the stream system. Colorado Water Court also has authority, under C.R.S. §37-92-305, to impose terms and conditions on changes of water rights from agricultural irrigation to other beneficial uses in order to accomplish the revegetation of lands from which the irrigation water is removed. These conditions could include continuing to use the water to be changed for enough time to establish the revegetation. Once the revegetation is established, the applicant for the change can obtain a final determination, under the continuing jurisdiction of the court that no further application of water is necessary to satisfy the revegetation requirements. Conversion to dry land agriculture may not be subject to revegetation conditions of the court.

As part of the non-structural component of Refined Alternative 4, the Colorado Ute Tribes may acquire enough existing water rights to result in an additional 13,000 acre-feet of annual Tribal depletions. If the Tribes wish to change the use of the water from irrigation to an instream flow for aesthetic and environmental purposes, the Tribes could face a need for amending Colorado's statutes. Any proposed use of water under Colorado water law must be a "beneficial use." Beneficial use as defined in C.R.S. §37-92-103 (4) does include streamflows for environmental purposes, presently the state of Colorado, through the Water Conservation Board, is the only entity that may hold an instream water right for

environmental purposes. The Tribes would need to donate the water to the Board. The Board, as any other appropriator, would then have to file a change of use application and show no injury to other water rights.

The land proposed for acquisition in order to change the use of the appurtenant water rights to M&I purposes under refined Alternative 6, is listed below (as used below, the Southern Ute Indian Tribe is represented by SUIT and the Ute Mountain Ute Tribe is represented by UMUT):

Basin	Acres	Depletion (AF/yr)	Buyer
Pine River	10,000	15,114	SUIT/UMUT
La Plata River	785	521	UMUT
Mancos River	500	761	UMUT
McElmo Creek	657	1,051	UMUT

The water rights change of use proceedings for the La Plata River, Mancos River and McElmo Creek Basins appear to be relatively "simple or small" in comparison with the proposed program for the Pine River Basin, based on the amount of acreage involved relative to the amount of existing non-Indian irrigated lands in those Basins. Even a relatively small change of use proceeding within the La Plata, Mancos, and McElmo Basins would face significant constraints and would likely encounter major opposition from other water right holders. All of these Basins are water-short basins and are considered fully appropriated under certain criteria. A recent change of use proceeding, very minor in comparison with the proposed changes in these Basins, required at least three years to obtain a negotiated approval, as opposed to a litigated approval which would likely have required additional time.

The much larger Pine River program would require overcoming numerous issues and constraints and would likely encounter extreme opposition from other water right holders. The opposition would stem from the fact that the 10,000 acres, with appurtenant water rights, proposed for acquisition constitutes about one-third of the estimated 30,000 acres of existing non-Indian irrigated lands in the Basin and the water acquired would be used for M&I purposes outside the Pine River Basin.

The change of use proceedings, particularly for the Pine River program, would be highly complex from a hydrological, social, and legal perspective. The land would need to be accumulated over time to obtain a relatively large block of water. It would not be practicable to change the water right for each land acquisition or to initiate a large number of change actions, each for a small quantity of water. Once a block of water is accumulated and a specific end use is identified, the change process could be initiated. During the period prior to obtaining approval for the change of use and finally putting the water to its new use, the land would need to be leased to protect the irrigation use of the right and to manage the land for weed control and to insure proper revegetation under Colorado law.

As an example, a change of use for a block of water from the Pine River Basin of about one-third of the water (5,000 AF/year and 3,000 acres) would likely involve an estimated 25 transactions (approximately 135 acres each) and a number of different ditches. The estimated time to acquire this amount of land is five to seven years, based on an analysis of land sales over the past seven years. The time required for engineering studies, litigation, and other activities related to securing a court-approved change for the water rights is estimated to be at least an additional eight to ten years. Once the change is approved, it would take further time to acquire land for facilities to deliver the water, and to design and construct the required facilities.

The applicant for a change of use of a water right must have an ownership interest in the water right that is being changed and set forth a specific end use of the water in order that potential injury to other water right holders from the change may be evaluated. The precise end uses for the Tribal water and their timing are not well defined (many of the non-binding end uses are projected to not occur until many years in the future).

In a recent proceeding, the City of Thornton in northern Colorado sought to change 20,000 AF of irrigation water rights to M&I use in the Denver Metropolitan Area. The time required for Thornton to obtain the land and secure final court action, including the appeal proceeding, was about ten years. Unlike the scenarios for the ALP Project non-structural alternatives, however, in the Thornton case all the land was under one ditch and the land was obtained during the depressed economic conditions of the 1980s when a relatively large amount of land was immediately available for purchase.

The non-structural component in Refined Alternative 6 contemplates that the Colorado Ute Tribes would acquire and change existing water rights in the state of Colorado to supply water to a tribal power plant located in Colorado, but in a river basin outside the basin of origin of the supply. By way of example, the Colorado Ute Tribes might seek to acquire water in the Pine River Basin and then change the use, as in the following scenario: utilizing storage in Vallecito Reservoir or Navajo Reservoir, the changed water could be released via the Pine and the San Juan Rivers to a pumping plant on the San Juan River in the State of New Mexico for diversion and delivery for use back in the State of Colorado. The legal constraints on such an interstate change are especially complicated. Such a change may not comply with the requirements of Colorado's water export statute, C.R.S. §§37-81-101 through 103, which allows the diversion of water outside the state of Colorado only under certain conditions:

1. The out-of-state use must first be adjudicated a decree from the Colorado water court.

2. The state engineer or water judge must find that the proposed use of water outside the state:

    a. Is expressly authorized by interstate compact or to be credited toward the allocation of use of the state wherein the water is to be used, or that the proposed use of water does not impair the ability of the State of Colorado to comply with its obligations under any judicial decree or interstate compact.

    b. Is not inconsistent with the reasonable conservation of the water resources of Colorado.

    c. Will not deprive the citizens of Colorado of the beneficial use of water apportioned to Colorado by interstate compact or judicial decree.

Approvals would be required from the State of New Mexico for the suggested diversion of water in the San Juan River for use back in Colorado. It is uncertain if the state of New Mexico will protect the water entering the State from being diverted by existing water right holders in New Mexico. It would be necessary to demonstrate to the State of New Mexico that this water would not be subject to diversion by existing water rights in New Mexico. This scenario may be possible if the "Project" included a storage reservoir whereby it can be shown that the water is storable or controllable. The fact that the water is controllable by the ALP Project would show that the water is not available for diversion by existing water rights in New Mexico and, thus, the water could be "protected" in the stream and delivered to the pumping plant for subsequent delivery back to the state of Colorado.

Refined Alternative 4 contemplates releases of ALP Project water from Colorado down the Animas River to a pumping plant on the San Juan River in New Mexico for pumping to the proposed Ute Mountain Ute Tribal gas-fired power plant. This may be possible because, with the ALP Project, it could be demonstrated that the water is controllable and, thus, could be protected from diversion by existing water rights in New Mexico. This scenario, however, involves using Colorado water rights in New Mexico and as described below, involves interstate compact issues that would need to be resolved.

Other possible scenarios contemplated in Refined Alternative 6 are that the Colorado Ute Tribes would acquire and change existing water rights in the state of Colorado to supply water to meet M&I demands in New Mexico or to use for a possible UMUT gas-fired power plant in New Mexico. By way of example, the Colorado Ute Tribes could acquire water in the Pine River Basin and, utilizing storage in Vallecito Reservoir or Navajo Reservoir, release the changed water via the Pine and the San Juan Rivers to a point of diversion on the San Juan River in the State of New Mexico. These scenarios would also require approvals by the States of Colorado and New Mexico, based on demonstrations of non-injury to existing water rights, control of the water by the ALP Project and the unavailability of the water for diversion by existing water rights in New Mexico. These scenarios, however, differ from the scenario of transporting Colorado water in New Mexico for use back in Colorado because this involves using Colorado water rights in New Mexico. Interstate compact issues would need to be resolved. The States of New Mexico and Colorado would have to determine whether the use would be assigned against New Mexico's allocation under the Upper Colorado River Compact or credited against Colorado's allocation. Applying the credit against Colorado's allocation would be contrary to the existing compact and may require federal legislation and state ratification. Interstate compact issues will also need to be resolved in order to implement any Pine River change of water rights for diversion and use of water in the state of New Mexico. It is uncertain whether New Mexico would be a party to a Colorado Water Court proceeding or if New Mexico would get involved under a compact proceeding. Because it appears that New Mexico would treat any such depletion as debited to the State of Colorado, the requirements of C.R.S. §§37-81-101 through 103 would not be met.

The Colorado Ute Tribes may not support Refined Alternative 6 and may not view this Alternative as meeting the purpose of and need for the proposed federal action to complete implementation of the Settlement Act by providing the Colorado Ute Tribes an assured long-term, reliable M&I water supply. Refined Alternative 6 would have greater uncertainty and risk than Refined Alternative 4. Such uncertainties and risks include the uncertain time schedules, the uncertain terms and conditions and the uncertain outcomes related to actions to change the use of the acquired water rights, the uncertain outcome of proposed legislation required to implement the changes, and the possible degradation of the reliability and quantity of water supply compared to Refined Alternative 4, defined reservoir storage associated with Ridges Basin Reservoir without the need for a change of water rights to obtain the year-round M&I use of water. There is also the uncertainty and risk that new Colorado case law and statutes may make change of water rights actions even more difficult than they are now. Lack of support by the Colorado Ute Tribes could result in litigation under the current Settlement Agreement and eventual modification of the current Settlement Agreement and Settlement Act based on the uncertainty or risk associated with change of water rights proceeding, with the burden of proof on the applicant to show no injury to other water rights, and the likelihood of extreme opposition.

Attachment D - Part 2

Agricultural Land Acquisition
Cost Analysis

ANIMAS-LAPLATA PROJECT

AGRICULTURE LAND ACQUISITION COST ANALYSIS

1.0 INTRODUCTION

This paper discusses the costs and risks associated with the non-structural land acquisition elements of Refined Alternative 4 and Refined Alternative 6. The land acquisitions discussed in this analysis address the purchase of lands to satisfy the Colorado Ute Tribe's water rights associated with the non-structural component. Table 1 summarizes the number of acres that would need to be purchased in each of the identified river basins in order to obtain the amount of water rights associated with the non-structural components of Refined Alternative 4 and 6. Also presented in **Table 1** is the anticipated use of the water whether it would remain on the land for agriculture or be transferred to M&I use.

Table 1
Amount of Irrigated Agricultural Lands and Projected Uses Necessary for Non-Structural Component Water Rights Acquisition

	Refined Alternative 4		Refined Alternative 6	
Location	Irrigated Land (acres)	Projected Use of Water	Irrigated Land (acres)	Projected Use of Water
Animas and Florida Basins	2,300	Agriculture	4,643	Agriculture
La Plata River Basin	2,400	Agriculture	785	M&I 1/
Mancos River Basin	3,300	Agriculture	500	M&I 1/
McElmo Creek Basin	0		4,719	Agriculture
Pine River Basin	2,300	Agriculture	10,000	M&I 1/
Total	10,300		20,647	

1/ When land is changed from an agriculture demand pattern to an M&I demand pattern there is a need to have storage to meet the year round M&I water needs. Lands without storage facilities would not be able to supply demands outside an agriculture demand pattern. More lands were purchased in the Pine River Basin because of the storage re-regulation capabilities at Navajo Reservoir.

Both nominal cost and present worth costs along with costs reflecting a discretionary water acquisition fund have been computed for each of the alternatives. These costs are shown in **Table 2**. Nominal costs represents the amount it would take to purchase the required acreage, if it were all purchased in the current year, for example 1999. Present worth costs represents the amount of monies required in 1999 dollars to purchase land and water rights over time and accounts for the escalation in land values and interest rates. Under Refined Alternative 4 a Water Acquisition Fund of $40,000,000 is available for use at the discretion of the Colorado Ute Tribes. To make Refined Alternative 6 commensurate with Refined Alternative 4, a discretionary fund of $40,000,000 was used in the purchase of 4,643 acres in the Animas/Florida River basins and 4,719 acres in the McElmo Creek Basin to yield 13,000 afy of depletions.

Table 2 Cost of Land Acquisition to Obtain Non-Structural Component Water Rights Assuming Different Payment Options					
Refined Alternative 4 (Purchase of 10,300 acres for a 13,000 afy depletion)			**Refined Alternative 6 (Purchase of 20,647 acres for a 30,432 afy depletion)**		
Nominal Cost	**Present Worth Cost**	**Cost Reflecting Discretionary Water Fund**	**Nominal Cost**	**Present Worth Cost**	**Cost Reflecting Discretionary Water Fund**
$38,895,100	$49,160,530	$40,000,000	$80,580,000	$142,727,609	$140,887,000

For the water right purchase component of Refined Alternative 4 a value of $40,000,000 was used in Chapter 2 to approximate the total cost of Refined Alternative 4. For the water right purchase component of Refined Alternative 6 a value of $140,887,000 (rounded to $141 million) was used in Chapter 2 to approximate the total cost of Refined Alternative 6.

2.0 RISKS ASSOCIATED WITH A WATER RIGHTS PURCHASE PROGRAM

2.1 Risk of Availability of Lands with Senior Water Rights

The historical dry depletion for each river basin was used to estimate the amount of land that would need to be purchased to accumulate the required water rights under each alternative. However, no determination was made as to the seniority of water rights that would be attained with each subsequent land purchase, or the actual depletion on a particular ditch. Thus, the cost estimates shown assume that each acre of land purchased would have associated water rights that would allow a dry-year firm yield equal to the derived average depletion. The analysis also assumed that there would be sufficient senior water rights having a dry year firm yield within each river basin to allow purchase of enough land to satisfy the amount of water rights specified under each alternative.

"Illustrative" ditches were selected in each river basin in an attempt to identify ditches having senior water rights and to determine the impacts of buying land along a particular ditch. **Table 3** shows acreage associated with the illustrative ditches selected for each river basin. From a systems dynamics and operational perspective, the purchase and removal of irrigation water from more than 20 percent of the irrigated lands served from a given ditch could cause disruption to the hydrological dynamics of the system and other ditch users.

Table 3 Amount of Irrigated Land Served from Illustrative Ditches	
Basin	**Land Served (in acres)**
Pine River	3,500
La Plata River	1,500
Mancos River	478
McElmo Creek	488

With the exception of the Pine River system under Refined Alternative 4, the analysis determined that there may not be sufficient senior water rights within each river basin to satisfy requirements for either alternative. The lack of sufficient senior water rights would require purchases of lands with lower priority water rights resulting in a declining depletion per acre and requiring greater amounts of lands to be purchased to acquire a given amount of water rights. The end result of the entire procurement process would likely be a portfolio of water rights with a combination of senior and junior water rights, and perhaps the necessity to purchase a greater amount of land to acquire these water rights than has been estimated in this report.

The most recent hydrology modeling information has indicated that under Refined Alternative 6, as presently configured, there would not be sufficient flows into Navajo Reservoir to allow necessary flow releases from Navajo Reservoir to meet the flow recommendation in the San Juan River. The most recent information indicates that acquisition of up to an additional 5,000 acres of agriculture land in the Pine River basin and allowing the water being used on the 5,000 acres to flow downstream into Navajo Reservoir may be necessary. This additional water needs to be available in Navajo Reservoir in order to meet flow recommendations in the San Juan River. For purposes of this evaluation, however, Reclamation will use the more conservative approach with the analysis of 10,000 acres.

2.2 Risk Associated with Estimating Rate of Inflation of Land Prices

Federal construction projects are mandated to use the discount rate cited in the OMB circulars, currently fixed at 6.625 percent. In order to be equitable, the escalation factor of 8 percent used in the land acquisition model, which was considered to be a real rate, needs to have an added inflation factor. The long-run Consumer Price Inflation Index is considered to represent a reasonable and acceptable source for determining inflation and has been hovering at around 2.3 percent for some time. This inflation figure when added to the real land escalation factor of 8 percent, equals a nominal rate of 10.5 percent. [(1.08 x 1.023) - 1 = 10.5]. Thus, a 10.5 percent nominal inflation factor is used in the land acquisition model along with the federal discount rate of 6.625 percent.

The land escalation factor of 8 percent (real) was considered to be a reasonable, perhaps even conservative, rate due to several factors:

1. Land values in the subject area are increasing as indicated not only through sales history, but also supported by a statement in the Durango Herald by the La Plata County Assessor stating land values across the board have risen by 10 percent over the last two years, with irrigated and dry land farms increasing at 18 and 30 percent respectively.

2. The trend is towards subdividing farms into smaller parcels considered residential/hobby farms resulting in higher prices per acre.

3. The purchase of 30 percent of the irrigated acreage within the Pine River irrigation district will drive up prices, accelerate subdivisions and affect prices in neighboring river basins.

4. The 8 percent was considered to reflect a real escalation rate because the market prices–including increasingly higher prices placed on water and senior water rights, supply and demand determinant shifts, demographics, and land splits.

2.3 Risk Associated with the Assumption There Would Be No Disruption to Market Prices of Land

The assumption under the willing buyer/willing seller principle is that there would be no market disruption if lands were acquired in this manner. However, if a buyer is willing to pay more than market prices in order to acquire land it can be assumed that the seller would be willing to sell for this higher than market price. A small number of transactions of this nature would not likely have significant effects on the market, especially if the acquisitions were in large blocks. However, under Refined Alternative 6, acquisition of 10,000 acres of irrigated land is anticipated in the Pine River Basin where there are a total of 30,000 acres serviced for irrigation, and where the average size of land holding is 153 acres. There are two procurement alternatives that could occur, both of which would disrupt the market as it currently stands and would move it toward a speculative market. The willing buyer could 1) bid on every listed parcel having a senior water right and thus would exclude market participation on this land, or 2) would actively solicit sale of non-listed property by offering a price that would entice the owner to sale. These scenarios could be mitigated, however, if the buyer were to schedule acquisitions to take place over a sufficiently long period of time so as to not affect the market. The negative factor to the buyer of lengthening the acquisition period includes increased costs associated with the escalation of land prices over time.

2.4 Risk of Encountering Higher Costs Resulting From a Longer Procurement Period for Land Purchases

Under Refined Alternative 6, water from 10,000 acres within the Pine River Basin, 500 acres on the Mancos, and 657 acres on McElmo Creek would be transferred from irrigation to other defined purposes. Transfer of water rights and uses would entail a formalized application process for a change of use with the Colorado Water Court as discussed in the Water Rights Considerations and Constraints portion of this attachment.

In Colorado the process could take from 3 to 8 years, including engineering and environmental studies, application for change of water use, public forum, and potential mitigation. Since it would be costly and time consuming to apply for change of water use for each individual purchase, it is assumed that applications would be submitted in increments of approximately 5,000 acre feet. Based on an average depletion factor of 1.5 acre feet per acre, it could take up to 5 years to purchase the estimated 3,000 acres of land that would yield 5,000 acre feet of water rights. The time to purchase the land together with the process and application for change of water use would require an estimated 13 to 15 years. If this process were applied to the Pine River Basin, in which 10,000 acres of land would be purchased, the next 5,000 acre feet of water would take longer for the change of water rights as that increment of associated land would have lower priority water rights (translating to lower depletion) and the farm size would be smaller. Each of these factors would result in the need to purchase additional land and complete additional transactions. The last increment of 5,000 acre feet of water could take approximately a total of 18 to 20 years from the initiation of land purchase to obtaining a change of use decree. Depending on the aggressiveness of land acquisition, the change of use of the full 15,000 acre feet on the Pine River from irrigation to other uses at another location could take from 30 to 40 years. It should also be noted that the engineering and environmental studies and legal representation before and during the application process could add $1,000 or more per acre to the cost of land purchase/water rights change of use process. Additional costs that could be attributed to change of use are mitigation of impacts to wildlife and wetlands, as well as reparations paid to federal agencies for change of use from agriculture to M&I use.

3.0 CALCULATION OF NOMINAL COSTS AND PRESENT WORTH COSTS

Nominal costs represents the amount it would take to purchase the required acreage, if it were all purchased in 1999.

Present worth costs represents the amount of monies required in 1999 dollars to purchase land and water rights over time and accounts for the escalation in land values and interest rates.

The derivation of these values are predicated on these assumptions:

- ❑ The land would be purchased over time and that the present values were treated as a lump sum distribution that would be invested to return a net real value equal to annual land price escalation;
- ❑ Lands would be purchased on a "willing buyer/willing seller" basis; and
- ❑ A premium of 20% was attributed to Pine River basin lands to create an incentive over current market prices in order to acquire sufficient land to meet water right requirements.

3.1 Calculation of Nominal Costs

Table 4 shows the nominal cost and present worth cost expressed in 1999 dollars for land purchased under Refined Alternative 4 and for Refined Alternative 6. **Tables 5 and 6** indicate the average listed price of irrigated agricultural property greater than 35 acres within the two counties. The average listing price per acre as determined through an examination of the June 1999 listings for farmland with irrigation rights in La Plata and Montezuma Counties were $4,384 per acre and $2,487 per acre, respectively.

Table 4
Estimated Nominal Cost
of Land Acquisition to Obtain Non-Structural Component Water Rights

County	Refined Alternative 4	Refined Alternative 6
La Plata	$30,688,000	$67,600,000
Montezuma	$8,207,100	$12,980,000
Total	$38,895,100	$80,580,000

3.2 Calculation of Present Worth Values

The present value analysis for both alternatives used the decreasing parcel size scenario (i.e. farm sizes trending smaller,) as it approximated the reality occurring throughout La Plata and Montezuma counties.

The analysis under Section 3.2.2 assumes that the full complement of land will be purchased under each alternative necessary to satisfy the non-structural components water rights. The second analysis under Section 3.2.3 assumes a discretionary fund to purchase 13,000 afy of depletion.

Table 5

La Plata County Farmland Property Listing Information

Property No.	MLS #	Page	APN	County	Asking Price	Acreage	Water Rights	Type	Irrigation Source	Water Value	Dry Land Farms price per acre
1	61559	28	590,119,200,169	LP	$ 95,000.00	38		Flood			$ 1,666.00
2	60561	29	59,038,400,502	LP	$ 119,500.00	56		Flood	Morrison Ditch		$ 1,250.00
3	61531	29	597,715,100,041	LP	$ 390,000.00	57.96		Flood			$ 400.00
4	61596	30	5911-122-00	LP	$ 240,000.00	120		Flood	Big Stick Ditch		$ 1,337.00
5	61511	30	566,535,100,103	LP	$ 3,950,000.00	980		Flood			$ 2,332.00
6	60292	186	5673-093-00	LP	$ 175,000.00	35.17		Flood			$ 950.00
7	56490	187	530,933,300,119	LP	$ 87,500.00	35			Morrison Ditch		$ 1,909.00
8	60423	190	tbd	LP	$ 349,000.00	35					$ 1,800.00
9	60318	190	tbd	LP	$ 550,000.00	35			HOA		$ 2,031.00
10	60945	197	590,328,400,115	LP	$ 108,000.00	45			2.5 shares Morris D		$ 1,600.00
11	59233	197	566,901,400,012	LP	$ 349,000.00	59.6		Flood			$ 2,009.00
12	59615	198	567,526,300,033	LP	$ 765,000.00	60			5ft Sullivan Ditch		$ 3,000.00
13	60549	198	590,531,100,100	LP	$ 550,000.00	62			Florida & adjucated		$ 2,563.00
14	60527	198	590,534,200	LP	$ 279,400.00	69.85		Flood			$ 1,150.00
15	58029	199	509,100,000,700	LP	$ 1,600,000.00	77			Mill Creek		$ 1,400.00
16	56386	199	567,309,200,007	LP	$ 680,000.00	80		Flood			$ 1,182.00
17	60541	200	590,528,100	LP	$ 496,500.00	82.75		Flood			$ 640.00
18	60695	200	6165232-05	LP	$ 199,900.00	155			3cfs Spring Crk, 4cfs river		$ 2,069.00
19	60047	201		LP	$ 349,900.00	160			142 shares PR&D		Average
20	57747	204	590,529,300,279	LP	$ 865,000.00	124		Sprinkler			
21	59094	204	595,106,100,014	LP	$ 450,000.00	79			Florida Project		
22	61478	204	590,328,300	LP	$ 695,000.00	131			84 acres Pine River		
23	59916	204	567,526,300,033	LP	$ 2,500,000.00	147			11.5cfs+5/8cfs		
24	61401	204	568,118,300,110	LP	$ 750,000.00	82.22			3 shr Schroder, 1.9cfs Wst		
A	61383	192	594,513,400,043	LP	$ 69,000.00	36.2		Flood			
B	60319	193	TBD	LP	$ 610,000.00	37.34			HOA		
C	61373	195	59450120078	LP	$ 119,000.00	40		Flood			
D	61382	198	594,513,400,043	LP	200000	70		Flood			
E	55350	202	590,930,200,057	LP	$ 1,900,000.00	1300		Sprinkler			
F	61034	203	560,526,200,236	LP	$ 337,500.00	56					
G	61394	205	56,055,284,001	Mont	$ 1,200,000.00	451		Flood	Mancos River		
					$21,029,200.00	4797.09					

Average Irr Price per ac	$ 4,383.74
Median Price	$ 5,500.00
Average Acreage	154.74
13000 acres	$ [illegible]
Projection10 years	$ 75,807,631.03
Average Price per acre dry land: $1627	

Assumptions:
1) 9.33 purchases a year
2) escalation of 7% pa
3) Base average per acre price of $4383.74
4) Average purchase of 154.74 acres per transaction
5) 84 transactions
6) Cost to purchase 13000 afy assuming one afy per acre: **$75.8M**

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Total
6328912	6771935	7245971	7753189	8295912	8876626	9497990	10162849	10874248	**$ 75,807,631.03**

Table 6

Montezuma County Farmland Property Listing Information

Property No.	MLS #	Page	APN	County	Asking Price	Acreage	Water Rights	Type	Irr Source	Water Value
1	9800795	143		Mont	$ 77,500.00	36	10 shrs MVI	Sprinkler		
2	9800789	144		Mont	$ 87,500.00	36	10 shrs MVI	Sprinkler		
3	9800788	144		Mont	$ 89,500.00	36	25 shrs MVI	Sprinkler		
4	9800790	145		Mont	$ 90,000.00	36	25 shrs MVI	Sprinkler		
5	9800793	148		Mont	$ 99,700.00	36	20 shrs MVI	Flood		
6	9800791	148		Mont	$ 99,700.00	36	30 shrs MVI	Sprinkler		
7	9601064	149		Mont	$ 102,000.00	41	.5cfs	Flood		
8	9800792	150		Mont	$ 105,000.00	36	25 shrs MVI	Sprinkler		
9	9801476	153		Mont	$ 140,000.00	59	35 shrs MVI	Sprinkler		
10	9900722	154		Mont	$ 158,000.00	69.66	35 shrs MVI	Sprinkler		
11	9801416	156		Mont	$ 175,500.00	54	20 shrs MVI	Sprinkler		
12	9900133	156		Mont	$ 177,000.00	74	33 shrs MVI	Sprinkler		
13	98001186	157		Mont	$ 208,000.00	81	1.5 cfs	Flood		
14	9900132	158		Mont	$ 210,000.00	80	34 shrs MVI	Sprinkler		
15	9900287	160		Mont	$ 286,000.00	70	35 shrs MVI	Sprinkler		
16	9900477	161		Mont	$ 320,000.00	138.6	102 shrs MVI	Sprinkler		
17	9900601	162		Mont	$ 400,000.00	400	435 af	Sprinkler	DWCD	
18	9800552	162		Mont	$ 450,000.00	484	134 shrs MVI	Sprinkler		
19	9801372	163		Mont	$ 470,000.00	131	30 shrs MVI	Sprinkler		
20	9700883	164		Mont	$ 550,000.00	180	326.9 Shrs M	Sprinkler		
21	9900433	166		Mont	$ 1,414,000.00	343.45	255 shrs MVI	Sprinkler		
22	9801244	173		Mont	$ 98,900.00	40	.5 cfs	Sprinkler		
23	9900707	178		Mont	$ 195,000.00	41.03	3 shrs L. Bauer			
24	9801474	178		Mont	$ 200,000.00	90	20 shrs MVI .6cfs			
25	9801162	180		Mont	$ 405,000.00	200	shrs Bauer, 3cfs Sumn	Sprinkler		
26	97001158	183		Mont	$ 89,500.00	35	25 shrs MVI	Sprinkler		
27	9900082	183		Mont	$ 134,900.00	62	.25 cfs			
28	9800966	184		Mont	$ 345,000.00	152				
29	9801523	184		Mont	$ 295,000.00	95	63 shrs MVI	Sprinkler		
30	9900235	187		Mont	$ 220,500.00	63	50 shrs MVI	Sprinkler		
31	9800968	188		Mont	$ 400,000.00	80	30 shrsY	Sprinkler		
32	9900389	188		Mont	$ 465,000.00	125.33	1.5 cfs Summit	Sprinkler		
Total					$ 8,558,200.00	3441.07				

Average Irr Price per acre:	$ 2,487.08
Median Price	**$ 2,222.22**
Average Acreage	107.53
[illegible] acres base	$ 32,631,978
Projection 10 years	$ -
Average Price per acre dry land: $	[illegible]

3.2.1 Determination of Farm Sizes and Number of Transactions to Acquire Water Rights

Number of Required Transactions Based on Current Farm Sizes

The average size of irrigated farmland listed in La Plata County is 155 acres and in Montezuma County is 108 acres (as determined in 1999). The Montezuma County Planning Department is projecting rural density to be an average of one home per 39 acres by 2020. In La Plata County, larger farmsteads are also being subdivided into smaller parcels. In either county it is possible to subdivide property into 35-acre parcels without obtaining special approval. **Table 7** shows the total number of properties that would need to be purchased under each alternative to acquire the amount of irrigated land necessary to obtain the contemplated water rights based on the current average size of listed irrigated properties in both La Plata and Montezuma counties.

Table 7
Number of Transactions Necessary Based on Current Average Farm Size

County	Average Farm Size (in acres)	Refined Alternative 4		Refined Alternative 6	
		Acres Required	Number of Transactions	Acres Required	Number of Transactions
La Plata	155	7,000	45	15,428	100
Montezuma	108	3,300	31	5,219	48
Total	**NA**	**10,300**	**76**	**20,646**	**148**

Number of Required Transactions Based on Declining Farm Sizes

Tables 8 and 9 show an analysis with a progression toward smaller land holdings over time. These tables indicate the amount of land within each river basin that would need to be acquired to obtain water rights under Refined Alternative 4 and Refined Alternative 6. The tables also show an estimate for total and annual average number of acquisitions for Refined Alternative 4 and Refined Alternative 6 under the two different farmstead size scenarios. Note that the average farm size within the Pine River Basin used in declining farm size analysis was 135 acres. This figure differs from the determination of average listed farm size found throughout La Plata County. This lower figure was used to better approximate the average listed farm size found in that particular basin and that determining the effects of a high concentration of purchases (as with Refined Alternative 6) required a more focused analysis.

Under Refined Alternative 4, the stable size farm scenario would require 76 purchases, whereas the declining farm size scenario would require 87.5 purchases over a 15 year period. Under Refined Alternative 6, the stable farm size scenario would require a total of 148 purchases, whereas the declining farm size scenario would require a total of 225.5 transactions over a period of 30 years.

It is likely that the greatest constraint to obtaining the indicated annual purchases under either scenario would be the number of suitable farm lands (i.e., those having senior water rights or a combination of water rights averaging the depletions used in this analysis and lying within the river basins proximal to the Colorado Ute Tribe reservations) coming on the market each year, and the Tribes were successful in acquiring the land. In addition, landowner knowledge that the Colorado Ute Tribes are entering the market to buy irrigated farmland in order to obtain a specified amount of water rights, could result in landowner sentiments ranging from strong desire to sell to strong resistance.

Table 8
Number of Transactions Necessary Under Refined Alternative 4
Based on Decreasing Farm Size

Basin	Farm Size (In acres)	Period (in years)	Transactions per Period	Transactions per Year	Land Total (in acres)
Pine River	135	1-5	10	2.0	1,350
	100	6-10	5.5	1.1	550
	80	11-15	5	1.0	400
		1 - 15	20.5	NA	2,300
Animas/Florida Rivers	155	1-5	7.5	1.5	1,163
	100	6-10	7	1.4	700
	80	11-15	5.5	1.1	440
		1-15	20	NA	2,303
La Plata River	155	1-5	9	1.8	1,395
	100	6-10	6	1.2	600
	80	11-15	5	1.0	400
		1-15	20	NA	2,395
Mancos River	108	1-5	14	2.8	1,512
	80	6-10	13	2.6	1,040
	60	11-15	12.5	2.5	750
		1-15	27	NA	3,302
Total	**NA**	**15**	**87.5**	**NA**	**10,300**

Table 9
Number of Transactions Necessary Under Refined Alternative 6
Based on Decreasing Farm Size

Basin	Farm Size (in acres)	Period (in years)	Transactions per Period	Transactions per Year	Land Total (in acres)
Pine River	135	1-5	25	5.0	3,375
	100	6-10	22.5	4.5	2,250
	80	11-20	40	4.0	3,200
	40	21-30	30	3.0	1,200
		1-30	117.5	NA	10,025
Animas/ Florida River	155	1-5	16	3.2	2,480
	100	6-10	15	3.0	1,500
	60	11-15	11	2.2	660
		1-15	42	NA	4,640
La Plata River	155	1-2	2	1.0	310
	100	3-5	4.8	1.6	480
		1-5	6.8	NA	790
Mancos River	108	1-2	2	1.0	216
	80	3-5	3.6	1.2	288
		1-5	5.6	NA	504
McElmo Creek	108	1-5	25	5.0	2,700
	80	6-10	15	3.0	1,200
	60	11-15	13.5	2.7	810
		1-15	53.5	NA	4,710
Total	**NA**	**30**	**225.4**	**NA**	**20,669**

3.2.2 Present Worth Costs

The nominal costs presented in Table 4 for land acquisition for both Alternatives has been stated in terms of 1999 dollars, as if all the land would be purchased in the one year. Because the purchases would take place over time, and since land is expected to increase in value while at the same time the value of money erodes due to inflation, it becomes necessary to analyze these effects through a process which brings the future value of the stream of costs to a present value.

Refined Alternative 4

The present and future values of land acquisition for Refined Alternative 4 are based on the following assumptions:

- 10,300 acres purchased with a 15 year purchase period
- land escalation of 10.5 percent (nominal) and federal discount factor of 6.625 percent
- an orderly market, with a willing buyer/willing seller principle

Table 10 shows the discounted cash flow analysis used to derive the present value of $49,160,530 for land procurement under Refined Alternative 4.

Refined Alternative 6

The present and future values of land acquisition from Refined Alternative 6 are based on the following assumptions:

- 20,647 acres purchased with a purchase period ranging from 5 to 30 years
- land escalation of 10.5 percent (nominal) and a federal discount factor of 6.625 percent
- emphasis on purchases on the Pine River Basin which entail a premium of 20% over current average listed per acre cost, a periodic 25 percent increase in land value to reflect decreasing land availability and resistance on remaining acreage in the basin.
- a periodic 25 percent increase in land values on the Animas/Florida river basins to reflect impacts from the land values on the Pine River Basin and market reactions on remaining land in these particular river basins.

Table 11 shows the discounted cash flow analysis used to derive the present value for land procurement under Refined Alternative 6. The present value derived for Refined Alternative 6 was $142,727,609.

3.2.3 Adjustments in Present Worth Costs To Consider the Use of A Discretionary Water Acquisition Fund to Purchase Water Rights

The $40 million water rights settlement fund is now being considered discretionary; either to be used to purchase irrigated land for water rights or to do any economic development. As such, it has been determined to exclude any purchase of land under the Refined Alternative 4, thus considering the non-structural component exclusively as a settlement fund. The same settlement fund concept has now been carried forward to Refined Alternative 6 and the land equivalent to the 13,000 acres analyzed in Refined Alternative 4 has been removed from the spreadsheet analysis and replaced with a set figure of $40 million.

Under this scenario (see **Table 12**), the present values for the non-structural component of Refined Alternative 4 is $40 million and for that of Refined Alternative 6, $140,877,000.

Table 10. Present Value Analysis - Refined Alternative 4

escalation= **11%**

LAPLATA COUNTY

End of Year	PINERIVER # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	ANIMAS/FLORIDA RIVERS # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure
					4,384						4,384	
1	2	135	270	10.5%	4,844	1,307,966	1.5	155	233	10.5%	4,844	1,126,304
2	2	135	270	10.5%	5,353	1,445,303	1.5	155	233	10.5%	5,353	1,244,566
3	2	135	270	10.5%	5,915	1,597,060	1.5	155	233	10.5%	5,915	1,375,246
4	2	135	270	10.5%	6,536	1,764,751	1.5	155	233	10.5%	6,536	1,519,647
5	2	135	270	10.5%	7,222	1,950,050	1.5	155	233	10.5%	7,222	1,679,210
6	1.1	100	110	10.5%	7,981	877,884	1.4	100	140	10.5%	7,981	1,117,306
7	1.1	100	110	10.5%	8,819	970,061	1.4	100	140	10.5%	8,819	1,234,623
8	1.1	100	110	10.5%	9,745	1,071,918	1.4	100	140	10.5%	9,745	1,364,259
9	1.1	100	110	10.5%	10,768	1,184,469	1.4	100	140	10.5%	10,768	1,507,506
10	1.1	100	110	10.5%	11,899	1,308,838	1.4	100	140	10.5%	11,899	1,665,794
11	1	80	80	10.5%	13,148	1,051,830	1.1	80	88	10.5%	13,148	1,157,013
12	1	80	80	10.5%	14,528	1,162,272	1.1	80	88	10.5%	14,528	1,278,499
13	1	80	80	10.5%	16,054	1,284,311	1.1	80	88	10.5%	16,054	1,412,742
14	1	80	80	10.5%	17,740	1,419,163	1.1	80	88	10.5%	17,740	1,561,080
15	1	80	80	10.5%	19,602	1,568,176	1.1	80	88	10.5%	19,602	1,724,993
Total			2,300						2,303			

discount rate= **6.625%**

LAPLATA COUNTY (CONTINUED) | **M O N T E Z U M A C O U T Y**

End of Year	LAPLATA RIVER # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	MANCOS RIVER # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	projected expenditure four basins	present value
					4,384						2,487			
1	1.8	155	279	10.5%	4,844	1,351,565	2.8	108	302	10.5%	2,748	831,036	4,616,872	4,330,009
2	1.8	155	279	10.5%	5,353	1,493,480	2.8	108	302	10.5%	3,037	918,295	5,101,644	4,487,372
3	1.8	155	279	10.5%	5,915	1,650,295	2.8	108	302	10.5%	3,356	1,014,716	5,637,316	4,650,453
4	1.8	155	279	10.5%	6,536	1,823,576	2.8	108	302	10.5%	3,708	1,121,261	6,229,234	4,819,461
5	1.8	155	279	10.5%	7,222	2,015,051	2.8	108	302	10.5%	4,097	1,238,993	6,883,304	4,994,612
6	1.2	100	120	10.5%	7,981	957,691	2.6	80	208	10.5%	4,527	941,700	3,894,581	2,650,370
7	1.2	100	120	10.5%	8,819	1,058,249	2.6	80	208	10.5%	5,003	1,040,579	4,303,512	2,746,691
8	1.2	100	120	10.5%	9,745	1,169,365	2.6	80	208	10.5%	5,528	1,149,840	4,755,381	2,846,512
9	1.2	100	120	10.5%	10,768	1,292,148	2.6	80	208	10.5%	6,109	1,270,573	5,254,696	2,949,961
10	1.2	100	120	10.5%	11,899	1,427,824	2.6	80	208	10.5%	6,750	1,403,983	5,806,439	3,057,169
11	1	80	80	10.5%	13,148	1,051,830	2.5	60	150	10.5%	7,459	1,118,799	4,379,472	2,162,581
12	1	80	80	10.5%	14,528	1,162,272	2.5	60	150	10.5%	8,242	1,236,273	4,839,317	2,241,174
13	1	80	80	10.5%	16,054	1,284,311	2.5	60	150	10.5%	9,107	1,366,082	5,347,445	2,322,623
14	1	80	80	10.5%	17,740	1,419,163	2.5	60	150	10.5%	10,063	1,509,520	5,908,927	2,407,033
15	1	80	80	10.5%	19,602	1,568,176	2.5	60	150	10.5%	11,120	1,668,020	6,529,364	2,494,510
Total			2,395						3,302					**49,160,530**

TABLE 11 PRESENT VALUE ANALYSIS - REFINED ALTERNATIVE 6

nominal escalation= 10.5%

LAPLATA COUNTY

	PINE RIVER						ANIMAS and FLORIDA RIVERS						LA PLATA RIVER					
End of Year	# farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	# farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	# farms	farm size	acres purchased	real escalation	price per acre	projected expenditure
					4,384						4,384						4,384	
1	5	135	675	20%	5,261	3,551,040	3.2	155	496	10.5%	4,844	2,402,783	1.0	155	155	10.5%	4,844	750,870
2	5	135	675	10.5%	5,813	3,923,899	3.2	155	496	10.5%	5,353	2,655,075	1.0	155	155	10.5%	5,353	829,711
3	5	135	675	10.5%	6,424	4,335,909	3.2	155	496	10.5%	5,915	2,933,858	1.6	100	160	10.5%	5,915	946,406
4	5	135	675	10.5%	7,098	4,791,179	3.2	155	496	10.5%	6,536	3,241,913	1.6	100	160	10.5%	6,536	1,045,778
5	5	135	675	10.5%	7,843	5,294,253	3.2	155	496	10.5%	7,222	3,582,314	1.6	100	160	10.5%	7,222	1,155,585
6	4.5	100	450	25%	9,804	4,411,877	3	100	300	25%	9,028	2,708,402						
7	4.5	100	450	10.5%	10,834	4,875,124	3	100	300	10.5%	9,976	2,992,785						
8	4.5	100	450	10.5%	11,971	5,387,013	3	100	300	10.5%	11,023	3,307,027						
9	4.5	100	450	10.5%	13,228	5,952,649	3	100	300	10.5%	12,181	3,654,265						
10	4.5	100	450	10.5%	14,617	6,577,677	3	100	300	10.5%	13,460	4,037,963						
11	4	80	320	25%	18,271	5,846,824	2.2	60	132	25%	16,825	2,220,880						
12	4	80	320	10.5%	20,190	6,460,741	2.2	60	132	10.5%	18,591	2,454,072						
13	4	80	320	10.5%	22,310	7,139,118	2.2	60	132	10.5%	20,544	2,711,749						
14	4	80	320	10.5%	24,652	7,888,726	2.2	60	132	10.5%	22,701	2,996,483						
15	4	80	320	10.5%	27,241	8,717,042	2.2	60	132	10.5%	25,084	3,311,114						
16	4	80	320	25%	34,051	10,896,302												
17	4	80	320	10.5%	37,626	12,040,414												
18	4	80	320	10.5%	41,577	13,304,658												
19	4	80	320	10.5%	45,943	14,701,647												
20	4	80	320	10.5%	50,767	16,245,320												
21	3	40	120	25%	63,458	7,614,994												
22	3	40	120	10.5%	70,121	8,414,568												
23	3	40	120	10.5%	77,484	9,298,097												
24	3	40	120	10.5%	85,620	10,274,398												
25	3	40	120	10.5%	94,610	11,353,209												
26	3	40	120	10.5%	104,544	12,545,296												
27	3	40	120	10.5%	115,521	13,862,553												
28	3	40	120	10.5%	127,651	15,318,121												
29	3	40	120	10.5%	141,054	16,926,523												
30	3	40	120	10.5%	155,865	18,703,808												
Total			10,025			276,652,977			4,640			45,210,682			790			4,728,350

Discount Factor **6.625%**

MONTEZUMA COUNTY

	MANCOS RIVER						McELMO CREEK						PV of
End of Year	# farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	# farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	Expenditure NPV=
					2,487						2,487		142,727,609
1	1.0	108	108	10.5%	2,748	296,799	5	108	540	10.5%	2,748	1,483,993	7,958,250
2	1.0	108	108	10.5%	3,037	327,962	5	108	540	10.5%	3,037	1,639,812	8,247,471
3	1.2	80	96	10.5%	3,356	322,132	5	108	540	10.5%	3,356	1,811,992	8,538,384
4	1.2	80	96	10.5%	3,708	355,956	5	108	540	10.5%	3,708	2,002,252	8,848,688
5	1.2	80	96	10.5%	4,097	393,331	5	108	540	10.5%	4,097	2,212,488	9,170,270
6							3	80	240	25%	5,122	1,229,160	5,682,024
7							3	80	240	10.5%	5,659	1,358,222	5,888,522
8							3	80	240	10.5%	6,253	1,500,835	6,102,525
9							3	80	240	10.5%	6,910	1,658,423	6,324,305
10							3	80	240	10.5%	7,636	1,832,557	6,554,144
11							2.7	60	162	10.5%	8,437	1,366,859	4,658,781
12							2.7	60	162	10.5%	9,323	1,510,379	4,828,092
13							2.7	60	162	10.5%	10,302	1,668,969	5,003,556
14							2.7	60	162	10.5%	11,384	1,844,210	5,185,396
15							2.7	60	162	10.5%	12,579	2,037,852	5,373,846
16													3,904,221
17													4,046,110
18													4,193,155
19													4,345,544
20													4,503,471
21													1,979,838
22													2,051,790
23													2,126,356
24													2,203,633
25													2,283,718
26													2,366,714
27													2,452,726
28													2,541,864
29													2,634,241
30													2,729,975
Total			504			1,696,180			4,710			25,158,003	**142,727,609**

TABLE 12 PRESENT VALUE OF REFINED ALTERNATIVE 6 WITH SETTLEMENT FUND

real escalation= 10.5%

LAPLATA COUNTY

End of Year	PINE RIVER # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	ANIMAS and FLORIDA RIVERS # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	LAPLATA RIVER # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure
					4,384						0						4,384	
1	5	135	675	20%	5,261	3,551,040							1.0	155	155	11%	4,844	750,870
2	5	135	675	10.5%	5,813	3,923,899							1.0	155	155	11%	5,353	829,711
3	5	135	675	10.5%	6,424	4,335,909							1.6	100	160	11%	5,915	946,406
4	5	135	675	10.5%	7,098	4,791,179							1.6	100	160	11%	6,536	1,045,778
5	5	135	675	10.5%	7,843	5,294,253							1.6	100	160	11%	7,222	1,155,585
6	4.5	100	450	25%	9,804	4,411,877												
7	4.5	100	450	10.5%	10,834	4,875,124												
8	4.5	100	450	10.5%	11,971	5,387,013												
9	4.5	100	450	10.5%	13,228	5,952,649												
10	4.5	100	450	10.5%	14,617	6,577,677												
11	4	80	320	25%	18,271	5,846,824												
12	4	80	320	10.5%	20,190	6,460,741												
13	4	80	320	10.5%	22,310	7,139,118												
14	4	80	320	10.5%	24,652	7,888,726												
15	4	80	320	10.5%	27,241	8,717,042												
16	4	80	320	25%	34,051	10,896,302												
17	4	80	320	10.5%	37,626	12,040,414												
18	4	80	320	10.5%	41,577	13,304,658												
19	4	80	320	10.5%	45,943	14,701,647												
20	4	80	320	10.5%	50,767	16,245,320												
21	3	40	120	25%	63,458	7,614,994												
22	3	40	120	10.5%	70,121	8,414,568												
23	3	40	120	10.5%	77,484	9,298,097												
24	3	40	120	10.5%	85,620	10,274,398												
25	3	40	120	10.5%	94,610	11,353,209												
26	3	40	120	10.5%	104,544	12,545,296												
27	3	40	120	10.5%	115,521	13,862,553												
28	3	40	120	10.5%	127,651	15,318,121												
29	3	40	120	10.5%	141,054	16,926,523												
30	3	40	120	10.5%	155,865	18,703,808												
Total			10,025			276,652,977			-			-			790			4,728,350

6.625% discount factor

MONTEZUMA COUNTY

End of Year	MANCOS RIVER # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	McELMO CREEK # farms	farm size	acres purchased	real escalation	price per acre	projected expenditure	PV of Expenditure NPV=
					2,487						2,487		**100,887,000**
1	1.0	108	108	11%	2,748	296,799	5	108	657	11%	2,748	1,805,525	6,006,315
2	1.0	108	108	11%	3,037	327,962							4,469,717
3	1.2	80	96	11%	3,356	322,132							4,623,337
4	1.2	80	96	11%	3,708	355,956							4,791,360
5	1.2	80	96	11%	4,097	393,331							4,965,489
6													3,002,404
7													3,111,519
8													3,224,598
9													3,341,788
10													3,463,236
11													2,887,158
12													2,992,084
13													3,100,823
14													3,213,514
15													3,330,301
16													3,904,221
17													4,046,110
18													4,193,155
19													4,345,544
20													4,503,471
21													1,979,838
22													2,051,790
23													2,126,356
24													2,203,633
25													2,283,718
26													2,366,714
27													2,452,726
28													2,541,864
29													2,634,241
30													2,729,975
Total			504			1,696,180			657			1,805,525	100,887,000
													40,000,000 Settlement Fund
													140,887,000

Attachment D - Part 3

Conversion of Fee Simple Farmland

ANIMAS-LA PLATA PROJECT
CONVERSION OF FEE SIMPLE FARMLAND TO INDIAN TRUST LAND

The irrigated farmland be purchased under either Refined Alternative 4 or Refined Alternative 6 could be converted to Indian Trust land. Conversion of fee simple farmland to Indian Trust land could reduce county tax revenue as Indian Trust lands would be removed from the tax roles. Tax revenue impacts that could result from conversion of irrigated agricultural lands to dryland production under the ALP Project alternatives non-structural components are discussed in the DSEIS and are not evaluated in this report.

Taxes on agricultural land in both La Plata and Montezuma Counties are based on production value, which is a function of soils and irrigation type. Production values for instance in La Plata county are based on four different classifications of soils. Production values with flood irrigation range from $317 to $630 per acre. For sprinkler irrigation the range is from $277 to $590 per acre. The assessed value of agricultural land in La Plata county is 29 percent of production value. A mil levy is applied to the assessed value and the result is the tax amount per acre. This mil levy fluctuates based on location and tax district. Table 1 shows the location of irrigated farmland for each river basin and county, the mil levy range, the total acreage to be purchased under each alternative and the assessed tax per acre based on an average production value and average mil levy. The totals shown are the amount of tax that each county would lose in the event that all of the land purchased were converted to Indian Trust land.

Table 1
Potential Decreases in County Tax Revenues as a Result of Conversion of Fee Simple Farmland to Indian Trust Land

Basin	Mil Levy	Tax per Acre	Refined Alternative 4		Refined Alternative 6	
			Acreage	Tax Amount	Acreage	Tax Amount
La Plata County						
Animas/Florida River Basin	.036-.038	$5.24	2,300	$12,052	4,643	$24,329
La Plata River Basin	.038	$5.38	2,400	$12,912	785	$4,223
Pine River Basin	.048-.052	$7.08	2,300	$16,284	10,000	$70,800
County Total	**NA**	**NA**	**7,000**	**$41,248**	**15,428**	**$99,352**
Montezuma County						
Mancos River Basin	.060	$9.50-10.00	3,300	$32,175	500	$4,875
McElmo Creek	.06717	NA	0	0	4,719	$49,550
County Total	**NA**	**NA**	**3,300**	**$32,175**	**5,219**	**$54,425**

Assuming that all the irrigated lands purchased by the Colorado Ute Tribes would be converted to Trust land the result would translate to a loss of a tax base of $41,248 on 7,000 acres of irrigated agriculture land in La Plata County and $32,175 on 3,300 acres of land in Montezuma County under Refined Alternative 4. The tax loss under Refined Alternative 6 on 15,428 acres of land in La Plata County would be $99,352 and on 5,219 acres of land in Montezuma County would be $54,425.

The tax revenue from agricultural production in each county is factored into parcel assessments that in most cases have additional values included such as houses or other improvements. These amounts cannot be segregated into separate production and improvement portions. To estimate the impact to each county's tax base associated with removal of some agriculture properties from the tax roles it was assumed that removal of the tax revenue from only the production portion of those properties that were converted to Indian Trust land would be a valid approach in estimating a tax loss. Given the current farm tax revenue value (including improvements) in La Plata county of $6,026,100, the estimated taxes on loss production value would be $99,352, representing 1.6 percent decrease for the county.

Although a county-wide decrease of 1.6 percent is a relatively small proportion, the tax revenue is applied to the tax district and, as such, the proportion within a particular district would be much higher. Largest amount of land is anticipated to be purchased in the Pine River Basin and the direct impact on taxes revenue would occur within the associated tax district. While the figures are not available, it can be assumed that if one-third of the land served by the Pine River Irrigation District were removed from the tax roles of the district, as contemplated under Refined Alternative 6, the impacts to that district could be substantial.

It should be noted that a compact exists, according to which the Southern Ute Tribe has agreed to compensate for the loss of tax revenue to a county from the conversion of lands into Indian Trust. If a similar compact were applied to land purchases associated with the ALP Project non-structural component, the tax revenue impact associated with the conversion of lands to Indian Trust could be reduced or avoided depending upon the level of compensation.